

1     CLAIMS

2

- 3     1.     A method of inducing gamete maturation to be  
4           competent to fertilise in marine worms of the  
5           family *Arenicolidae* which exhibit epidemic  
6           spawning, said method comprising:  
7           providing maturing male and/or female worms in  
8           a housing substrate in sea water at a  
9           temperature of 4 to 8°C for a time period of  
10          14 to 24 days.
- 11
- 12    2.     The method as claimed in Claim 1 wherein the  
13           worms are maintained at a temperature of 5 to  
14           7°C for 20 to 22 days.
- 15
- 16    3.     A method for inducing spawning of marine worms  
17           of the family *Arenicolidae* which exhibit  
18           epidemic spawning, said method comprising  
19           inducing gamete maturation by the method of  
20           either one of Claims 1 and 2, and further  
21           comprising exposing the worms to a hormone  
22           able to induce gamete release.
- 23
- 24    4.     The method of Claim 3 wherein said worms are  
25           male worms and said hormone is  
26           8,11,14-eicosatrienoic acid.
- 27
- 28    5.     The method of Claim 3 wherein said worms are  
29           female worms and said hormone is provided as  
30           an homogenate of prostomium.
- 31

- 1     6.     A method for inducing spawning of marine worms  
2           of the family *Arenicolidae* and which exhibit  
3           epidemic spawning, said method comprising  
4           inducing gamete maturation by the method of  
5           either one of Claims 1 and 2, and further  
6           including raising the temperature of the sea  
7           water to 12 to 14°C.  
8
- 9     7.     The method as claimed in Claim 6 wherein the  
10           temperature of the sea water is increased at a  
11           rate of 1°C per hour to 12 to 14°C.  
12
- 13    8.     The method as claimed in any one of Claims 1  
14           to 7 wherein said marine worms are  
15           *Arenicolidae marina* or *Arenicola defodiens*.  
16
- 17    9.     The method as claimed in any one of Claims 1  
18           to 8 wherein said substrate is sand.  
19
- 20    10.    The method as claimed in any one of Claims 1  
21           to 9 wherein said marine worms are cultured  
22           worms which have previously been maintained at  
23           a temperature of 14 to 16°C for at least one  
24           month.